

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of synthesizing a signal comprising the ~~steps~~ acts of:
  - a) determining a required pitch bell location in the domain of the signal to be synthesized,
  - b) mapping the required pitch bell location onto an original signal to provide a first pitch bell location,
  - c) randomly shifting the first pitch bell location to provide a second pitch bell location,
  - d) windowing the original signal on the second pitch bell location to provide a pitch bell,
  - e) placing the ~~resulting~~ pitching pitch bell at the required pitch bell location in the domain of the signal to be synthesised,

and

f) repeating the ~~steps~~ acts a) to e) for all required pitch bell locations of the signal to be synthesized and performing an overlap and add operation on the resulting pitch bells in the domain of the signal to be synthesized in order to synthesize the signal.

2. (Original) The method of claim 1, wherein the determination of required pitch bell locations is performed by dividing the required length of the signal to be synthesized into time intervals, each of the time intervals having the length of a pitch.

3. (Currently Amended) The method of ~~claims 1 or 2~~ claim 1, wherein the ~~step of randomizing of act~~ of randomly shifting the first pitch bell location is performed by randomly shifting the first pitch bell location within an interval of +/- the pitch.

4. (Currently Amended) The method of ~~any one of the preceding claims 1 or 2~~ claim 1, wherein the ~~step~~ act of randomly shifting

the first pitch bell location  $i$  to provide the second pitch bell location  $i'$  is performed in accordance with the following equation:

$$i' = i * (Rxp),$$

where  $R$  is a random number between  $-1$  and  $+1$  and  $p$  is the pitch.

5. (Currently Amended) The method of ~~any one of the preceding claims 1 or 2, wherein claim 1,~~ wherein the windowing is performed by ~~mean of a~~ sine-window.

6. (Currently Amended) ~~The methods of any one of the preceding claims 1 or 2~~ method of claim 1, wherein the windowing is performed by ~~means of the~~ following sine-window function:

$$w[n] = \sin\left(\frac{\pi \cdot (n + 0.5)}{m}\right), \quad 0 \leq n < m$$

where  $m$  is ~~the a~~ length of the window and  $n$  is ~~the a~~ running index.

7. (Currently Amended) The method of ~~any one of the preceding~~  
~~claims 1 or 2~~ claim 1, wherein the original signal does not have a  
fundamental frequency, and the original signal ~~preferably comprises~~  
unvoiced speech or music.

Claim 8 (Canceled)

9. (Currently Amended) A computer system, ~~in particular text-~~  
~~speech synthesis system,~~ for synthesizing a signal, the computer  
system comprising:

means for determining required pitch bell locations within the  
signal to be synthesized,

means for mapping the required pitch bell locations onto an  
original signal to provide first pitch bell locations (i),

means for randomizing the first pitch bell locations to  
provide second pitch bell locations (i'),

means for windowing the original signal on the second pitch  
bell locations to provide pitch bells,

means for performing an overlap and add operation with respect

to the pitch bells in order to synthesize the signal.

Claim 10 (Canceled)

11. (New) The computer system of claim 9, wherein the means for determining determines the required pitch bell locations by dividing the required length of the signal to be synthesized into time intervals, each of the time intervals having the length of a pitch.

12. (New) The computer system of claim 9, wherein the means for randomizing randomly shifts the first pitch bell location within an interval of +/- the pitch.

13. (New) The computer system of claim 9, wherein the means for randomizing randomly shifts the first pitch bell location  $i$  to provide the second pitch bell location  $i'$  in accordance with the following equation:

$$i' = i * (Rxp),$$

where R is a random number between - 1 and + 1 and p is the pitch.

14.(New) The computer system of claim 9, wherein the windowing is performed by a sine-window.

15.(New) The computer system of claim 9, wherein the means for windowing performs windowing by the following sine-window function:

$$w[n] = \sin\left(\frac{\pi \cdot (n + 0.5)}{m}\right), \quad 0 \leq n < m$$

where m is a length of the window and n is a running index.

16.(New) The computer system of claim 9, wherein the original signal does not have a fundamental frequency, and the original signal comprises unvoiced speech or music.

17.(New) A device for synthesizing a signal comprising a processor configured to perform the acts of:

determining required pitch bell locations within the signal to be synthesized;

mapping the required pitch bell locations onto an original signal to provide first pitch bell locations;

randomizing the first pitch bell locations to provide second pitch bell locations;

windowing the original signal on the second pitch bell locations to provide pitch bells; and

performing an overlap and add operation with respect to the pitch bells in order to synthesize the signal.

18.(New) The device of claim 17, wherein the determination of required pitch bell locations is performed by dividing the required length of the signal to be synthesized into time intervals, each of the time intervals having the length of a pitch.

19.(New) The device of claim 17, wherein the act of randomly shifting the first pitch bell location is performed by randomly shifting the first pitch bell location within an interval of +/-

the pitch.

20.(New) The device of claim 17, wherein the act of randomly shifting the first pitch bell location  $i$  to provide the second pitch bell location  $i'$  is performed in accordance with the following equation:

$$i' = i * (Rxp),$$

where  $R$  is a random number between  $-1$  and  $+1$  and  $p$  is the pitch.

21.(New) The device of claim 17, wherein the windowing is performed by a sine-window.

22.(New) The device of claim 17, wherein the windowing is performed by the following sine-window function:

$$w[n] = \sin\left(\frac{\pi \cdot (n + 0.5)}{m}\right), \quad 0 \leq n < m$$

where  $m$  is a length of the window and  $n$  is a running index.